



Main

Range of Product	Modicon M238 logic controller
Product or Component Type	Counter module
Electrical Connection	2 spring terminal blocks

Complementary

Number of modules	3 counter modules per TM238 base
Discrete input number	12 EN/IEC 61131-2 type 1
Discrete output number	4
Application specific I/O	Frequency generator Downcounting Frequency meter Upcounting Period measurement Axis following
Counting mode	8 mode configurable
Counter inputs resolution	31 bits + sign
Counting frequency	60 kHz
Cycle time	1 ms
Input compatibility	Incremental signal encoder with 15...30 V source outputs 2 and 3-wire sensors (24 V)
Type of cable	Shielded cable
Isolation between channels and internal logic	1500 V for 1 minute
Discrete input type	Auxiliary input IN_CAP Auxiliary input IN_EN Auxiliary input IN_REF High-speed IN_A High-speed IN_B High-speed IN_SYNC
Discrete input logic	Positive logic (sink)
Discrete input voltage	24 V DC
Voltage state 1 guaranteed	15...30 V
Current state 1 guaranteed	5 mA
Voltage state 0 guaranteed	<= 5 V
Current state 0 guaranteed	<= 0.5 mA
Discrete input current	2 mA 11 V
Discrete output logic	Positive logic (source)
Discrete output voltage	24 V DC 19.2...30 V
Discrete output current	0.5 A
Load current	2 A per module 0.5 A per output
Response time on output	<= 200 µs energisation/de-energisation

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

Maximum leakage current	0.1 mA at state 0
Maximum voltage drop	<3 V at state 1
Short-circuit protection	Automatic reset after disappearance of fault
Output overload protection	0.5... 1.5 A trip current with automatic reset after fault disappearance, per o/p
Fallback status	Faulty channel set to 0 Each channel held at its last value or set to the predefined value (0 or 1)
Load inductance	L = 0.5/I²F
Load capacitance	50 µF
Local signalling	1 display block
Current consumption	<= 100 mA 24 V DC internal supply <= 100 mA 5 V DC internal supply <= 2 A 24 V DC external power supply
Mounting Support	35 mm symmetrical DIN rail

Ordering and shipping details

Category	22531-PLCS, TWIDO, TWD
Discount Schedule	PC12
GTIN	3606480060540
Returnability	No
Country of origin	ID

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	3.15 in (8 cm)
Package 1 Width	4.13 in (10.5 cm)
Package 1 Length	4.92 in (12.5 cm)
Package 1 Weight	7.90 oz (224 g)
Unit Type of Package 2	S02
Number of Units in Package 2	20
Package 2 Height	5.91 in (15 cm)
Package 2 Width	11.81 in (30 cm)
Package 2 Length	15.75 in (40 cm)
Package 2 Weight	11.35 lb(US) (5.15 kg)
Unit Type of Package 3	S02
Number of Units in Package 3	20
Package 3 Height	5.91 in (15 cm)
Package 3 Width	11.81 in (30 cm)
Package 3 Length	15.75 in (40 cm)
Package 3 Weight	11.35 lb(US) (5.15 kg)

Offer Sustainability

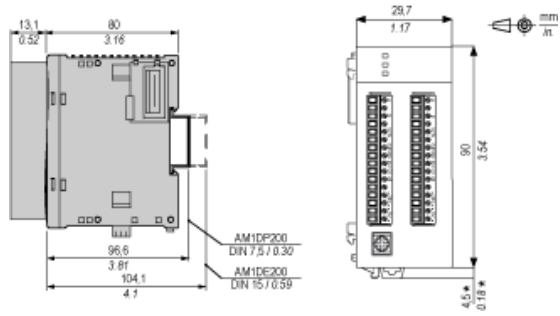
Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
REACH Regulation	REACH Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
Mercury free	Yes
China RoHS Regulation	China RoHS Declaration
RoHS exemption information	Yes
Environmental Disclosure	Product Environmental Profile
Circularity Profile	End Of Life Information
PVC free	Yes

Contractual warranty

Warranty	18 months
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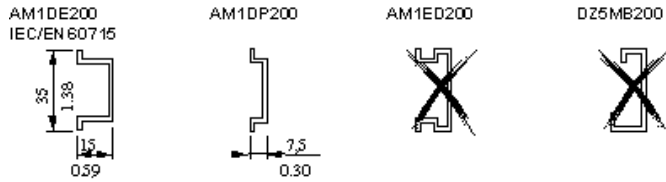
High Speed Counter (HSC) Module

Dimensions



NOTE: * 8.5 mm (0.33 in) when the clip-on lock is pulled out.

DIN Rail Mounting

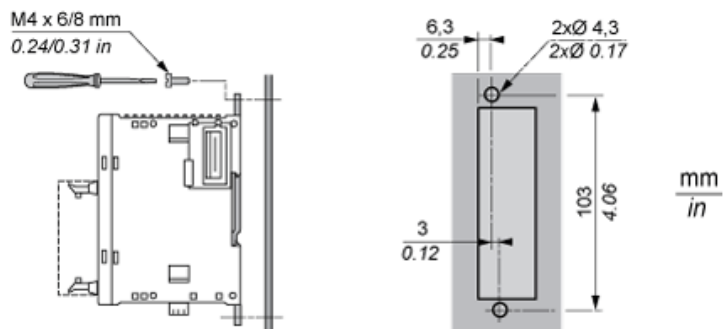


Rail depth	Catalogue part number
15 mm (0.59 in.)	AM1DE200
7,5 mm (0.30 in.)	AM1DP200

NOTE: Do not use AM1ED200 and DZ5MB200

Module Mounting on a Panel Surface

Mounting Hole Layout



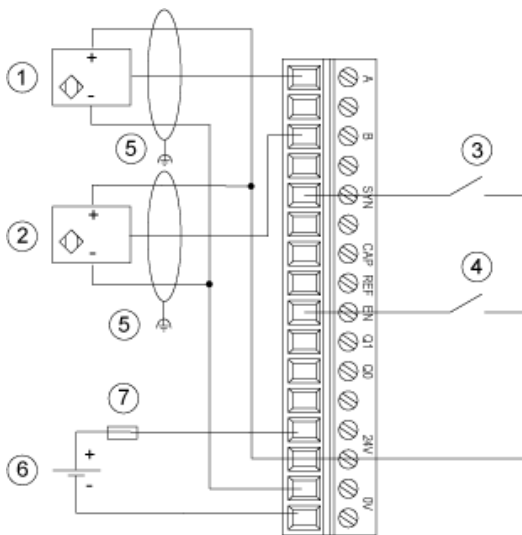
Wiring Requirements

Cable Types and Wire Sizes for Removable Screw Terminal Block

 9 0.35 mm in.							
	mm ²	0,14...1,5	0,25...0,5	0,25...1,5	0,14...0,5	0,14...0,75	0,25...0,34
AWG	26...16	24...20	24...16	26...20	26...18	24...22	20

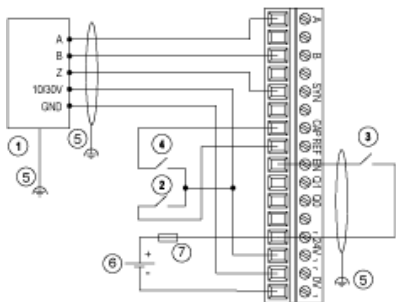
Wiring Diagrams Examples

Sensors Connections



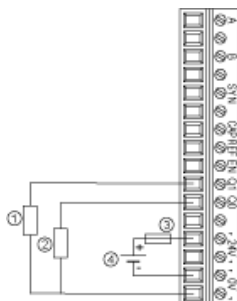
- 1 IN_A input
- 2 IN_B input
- 3 IN_SYNC input (synchronization input)
- 4 IN_EN input (enable input)
- 5 Functional ground
- 6 24 Vdc Power Supply
- 7 External fuse

Incremental Encoder Connection



- 1 Encoder (inputs A, B and Z)
- 2 IN_REF input (reference input)
- 3 IN_EN input (enable input)
- 4 IN_CAP input (capture input)
- 5 Functional ground
- 6 24 Vdc Power supply
- 7 External fuse

Actuators and Power Supply Connections



- 1 Actuator for the Q1 output
- 2 Actuator for the Q0 output
- 3 External fuse
- 4 24 Vdc Power Supply for sensors and actuators